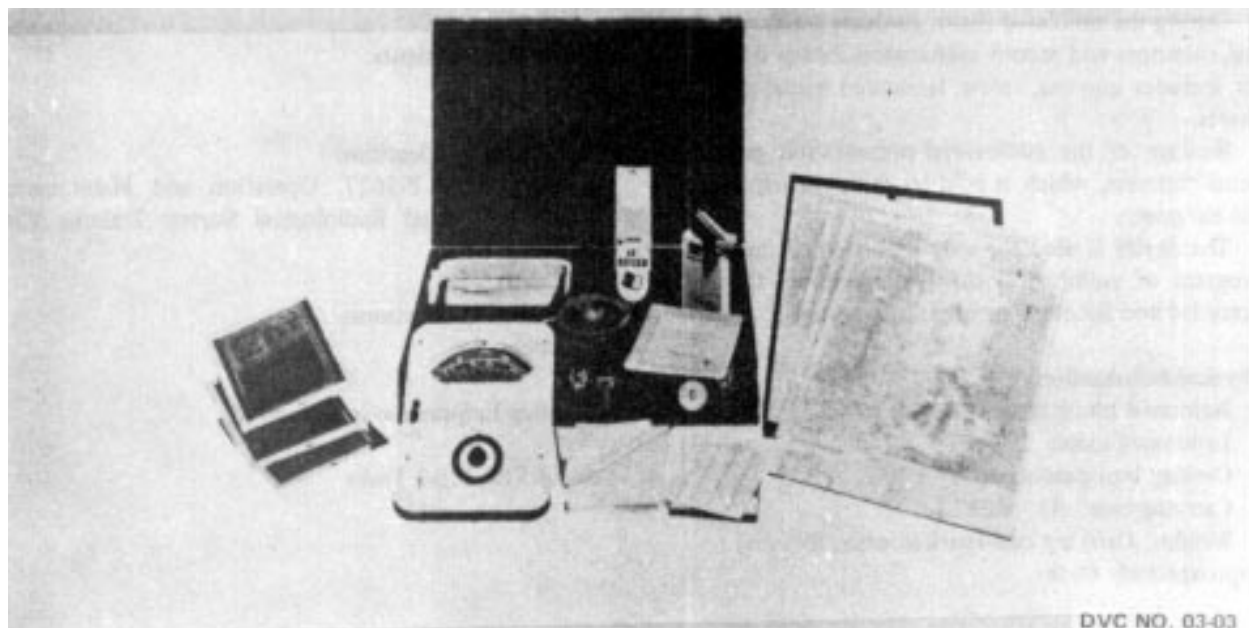


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AERIAL RADIOLOGICAL SURVEY TRAINING SET



DVC NO. 03-03

Training Category/Level Utilized:

General/Level 1

Logistic Responsible Command, Service, or Agency:

STRICOM

Source and Method of Obtaining:

Available through local TSC.

Purpose of Trainer:

To provide personnel with classroom training, practice, and to maintain proficiency in the techniques of conducting an aerial radiological survey with a minimum of transition between the simulated and real situation, and without the need for aircraft, terrain, or radiation. The specific training requirements supported are shown following the descriptive data.

Functional Description:

The device provides an audiovisual presentation which simulates a radiological survey flight mission following detonation of a nuclear weapon. This portrayal is made by means of (1) a motor driven operable transparency representing an operational radiac meter (IM-174/PD); and (2) a recorded tape which presents appropriate dialog and helicopter background noises. When animated, the radiac meter representation shows the different intensities of radiological dosage contamination found at 15-second intervals during each leg of five simulated flight legs. The operable transparency is to be used with an overhead projector (not furnished).

The device also includes visual casts by means of which the instructor can visually illustrate:

- a. Checkpoints
- b. Fallout predictions
- c. Course legs
- d. Air ground correlation factors
- e. Order of flying

The Radiological Data Sheet (DA Form 1971-1-R, 1 Jan 63), a complete with fallout readings, is also illustrated by a visual cast.

During the simulated flight, students act as radiological monitors and record radiological survey data. The kit includes crayons, rulers, laminated maps, and data sheets.

Realism of the audiovisual presentation gains students' interest, which is held by their participation in the exercise.

The device is used for only a portion of the overall program of radiological survey instruction. Its use is preceded and followed by other instruction.

Physical Information:

Animated transparency: 13" x 16" x 2"

Laminated maps: 20" x 28"

Overlay transparencies: 8" x 10"

Carrying case: 31" x 22" x 6"

Weight: Carrying case (packed with all items) approximately 60 lb

Equipment Required, Not Supplied:

- Overhead projector
- Viewing screen
- Tape playback unit

Special Installation Requirements:

None

Power Requirements:

110 vac

Applicable Publications:

NAVEXOS P-2627, Operation and Maintenance Guide
for Aerial Radiological Survey Training Kit, Device 11F7.

Reference Publications:

None

Training Requirements Supported:

ARTEP 310-2 Tasks

LARGE AREA RADIAC TRAINER, TDQ-T1

NSN 6665-00-081-2219
NSN 6665-00-100-4285

DVC 03-05/2 Simulated Radiac Receiver, OR-114/TDQ-1(V)
DVC 03-05/3 Simulated Radiac Transmitter, OT-51/TDQ-(V)

(PICTURE NOT AVAILABLE)

Training Category/Level Utilized:
Chemical (Radiation)/Level 3

Logistic Responsible Command, Service, or Agency:
CECOM

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Large Area Radiac Trainer simulates the functions of Radiac meter (AN/PDR-56F) to identify and map alpha radiation contamination. In field exercises, it is used to train alpha teams and explosive ordnance disposal teams to operate the Radiac meter without the use of radioactive material.

Functional Description:
This device replicates the actual Radiac meter Set; it includes four Simulated Radiac Sets, two Hot Spot Transmitters, and four Point Source Contamination Simulators. It enables Tactical Field Commanders to provide practical training for their own locale at any time. Trainees may practice all operator tasks with the Main Probe, the Auxiliary Probe, and the X-ray Probe; they may hear the same audible clicks through the headset and see the meter respond as does the real Radiac meter in the presence of radioactive material. The omni-directional Hot Spot Transmitter simulates an area of alpha contamination by sending RF signals. These are translated to audible clicks and meter readings by the receivers within the Radiac meter Simulator. The instructor may change the size of the area of contamination from 10 meters to 1000 meters for each transmitter by adjusting the variable attenuators.

The Radiac meter Simulator has no antenna which could detract from training realism and it is not sensitive to elevation changes or body effects. Realism is enhanced by the use of internal ultrasonic sonars to measure probe height instead of tubes that project from the bottom of the probe.

To simulate damage to the Main Probe mylar window, a weatherproof and very sensitive membrane switch has been mounted in the windows of the base of the Main Probe. The device uses state-of-the-art CMOS circuitry.

Physical Information:
Radiac meter: 6-1/2" high x 8" deep x 4-1/2" wide
Main Probe Simulator: 8.3" x 4.5" 3.5" (coiled cable: 12" x 0.5")
X-ray Probe Simulator: 9" long x 2-1/2" dia.
Auxiliary Probe Simulator: 5.7" x 2.0"
Emitter Follower: 5.2" x 2" (coiled cable: 12" x 0.5")
Hot Spot Transmitter: 11.1" x 5.1" x 8.8"
Antenna Assembly: 4 section: 0.75" x 36"
Baseplate: 5.5" x 6" D
Point Source Contamination Simulator: 0.4" x 1.75" x 0.5"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
None

Reference Publications Not Supplied:
TM 11-6665-250-14&P

Training Requirements Supported:
MOSC 54E or any user MOS

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M81 SIMULATOR, DETECTOR UNIT

Training Category/Level Utilized:

Chemical/Level 3

Logistic Responsible Command, Service, or Agency:

ACALA

Source and Method of Obtaining:

Not generally available for issue (limited production).

Purpose of Trainer:

The M81 Simulator is a portable training device, designed for use in field with M43A1 chemical agent detector. It will be used to support training and doctrine command schools and training centers worldwide. The specific training requirements supported are shown following the descriptive data.

Functional Description:

The M81 Simulator can be used to remotely cause detectors to signal the presence of agents as they would during normal operation. A hand-held lightweight transmitter with self-contained power pack sends tone and time sequence coded signals to selected receiver assemblies that are physically installed in the detectors. The instructor (transmitter operator) manually selects a detector to be actuated, presses the transmit switch, and the correspondingly coded receiver causes its detector to go into alarm; a condition it maintains until it has been reset by the detector operator. Each M81 can be used with up to 4 chemical alarms deployed in a tactical situation. The alarms can be selectively triggered from remote positions up to 1000 meters away, thus providing a more realistic chemical attack training than currently is possible. The M81 simulator consists of a transit case, 4 receiver assemblies, 5 antennas, 1 transmitter, a power cable extender and a manual.

Physical Information:

Transit Case: 24.5" x 25.88" x 12.31"

Loaded Transit Case: Weighs 45 lb

Equipment Required, Not Supplied:

None

Special Installation Requirements:

None

Power Requirements:

None

Applicable Publications:

TM 3-6665-316-12

TM 3-6665-316-30

Reference Publications:

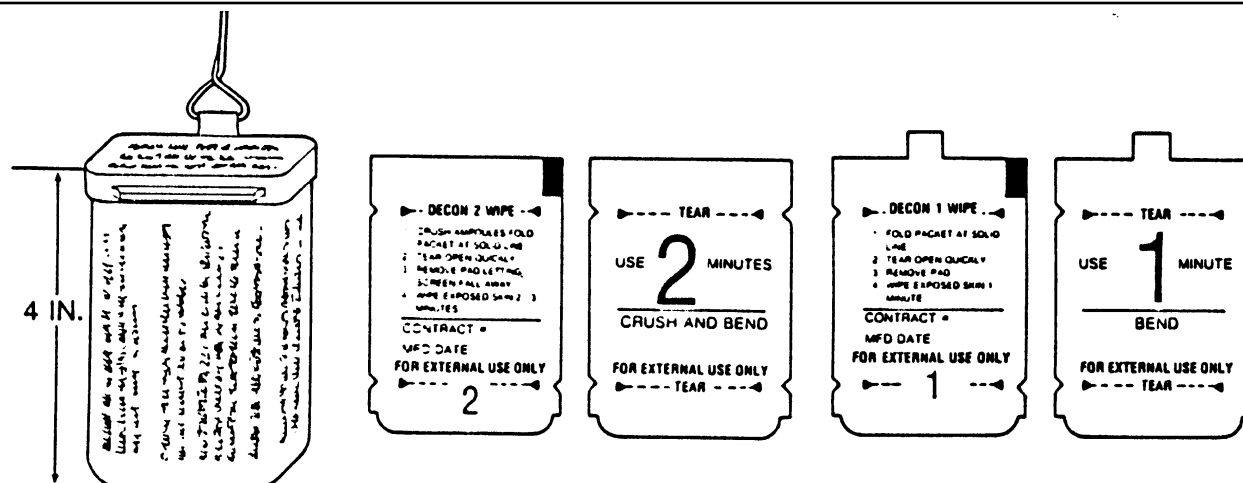
FM 3-3

TM 3-6665-312-12 & P

Training Requirements Supported:

Numerous applications, determined by user command.

TRAINING AID, SKIN DECONTAMINATION, M58A1



CASE

Training Category/Level Utilized:

Chemical/Level 3

Logistic Responsible Command, Service, or Agency:

ACALA

Source and Method of Obtaining:

Available through local TSC.

Purpose of Trainer:

To train troops in the use of the M258A1 Skin Decontaminating Kit, DVC 03-07 Skin Decontamination Training Aid consists of a black plastic case and six blue packets. The case is marked TRAINING AID, PERSONAL DECONTAMINATION KIT, M58A1. Three packets are marked DECON 1 WIPE. Each contains a gauze pad soaked with simulant decontamination solution. The three other packets are marked DECON 2 WIPE. Each contains a gauze pad and glass ampoules containing simulant decontamination solution. Instructions for use are marked on the case and packets. IAW the TM, use the #1 wipe first, then the #2 wipe to simulate use of the M258A1.

Functional Description:

This training aid serves as a safe substitute for training in the use of the M258A1. Simulant decontamination solutions are harmless, whereas the decontamination solutions in the M258A1 kit are poisonous and caustic.

DECON 2 WIPE PACKET (3)

Physical Information:

Transit Case: 1.75 x 2.75 x 4.00 inches

Loaded Transit Case: 3.2 ounces

Equipment Required, Not Supplied:

Refill Kit consisting of 30 #1 wipes and 30 #2 wipes. The Refill Kit NSN is 6910-01-113-2434.

Special Installation Requirements:

None

Power Requirements:

None

Applicable Publications:

Operator and Organizational Maintenance Manual for Training Aid, Skin Decontamination: M58A1-TM 3-4230-216-10.

Reference Publications:

FM 3-5

Training Requirements Supported:

(Information not available)

**REFILL KIT, TRAINING AID, SKIN DECONTAMINATION
(FOR M58A1 TRAINING AID, DVC 03-07)**

(PICTURE NOT AVAILABLE)

Training Category/Level Utilized:

Chemical/Level 3

Equipment Required, Not Supplied:

None

Logistic Responsible Command, Service, or Agency:

ACALA

Special Installation Requirements:

None

Source and Method of Obtaining:

Available through local TSC.

Power Requirements:

None

Purpose of Trainer:

To resupply training aid packets for refilling ten M58A1 Skin Decontamination Training Aid Kits when their components have been consumed during training. The Training Aid Refill Kit consists of thirty blue simulant DECON 1 WIPE packets and thirty blue simulant DECON 2 WIPE packets. Instructions for use are marked on the packets.

Applicable Publications:

Operator and Organizational Maintenance Manual for Refill Kit, Training Aid, Skin Decontamination (For M58A1 Training Aid) - TM 3-4230-216-10

Reference Publications:

FM 3-5

Functional Description:

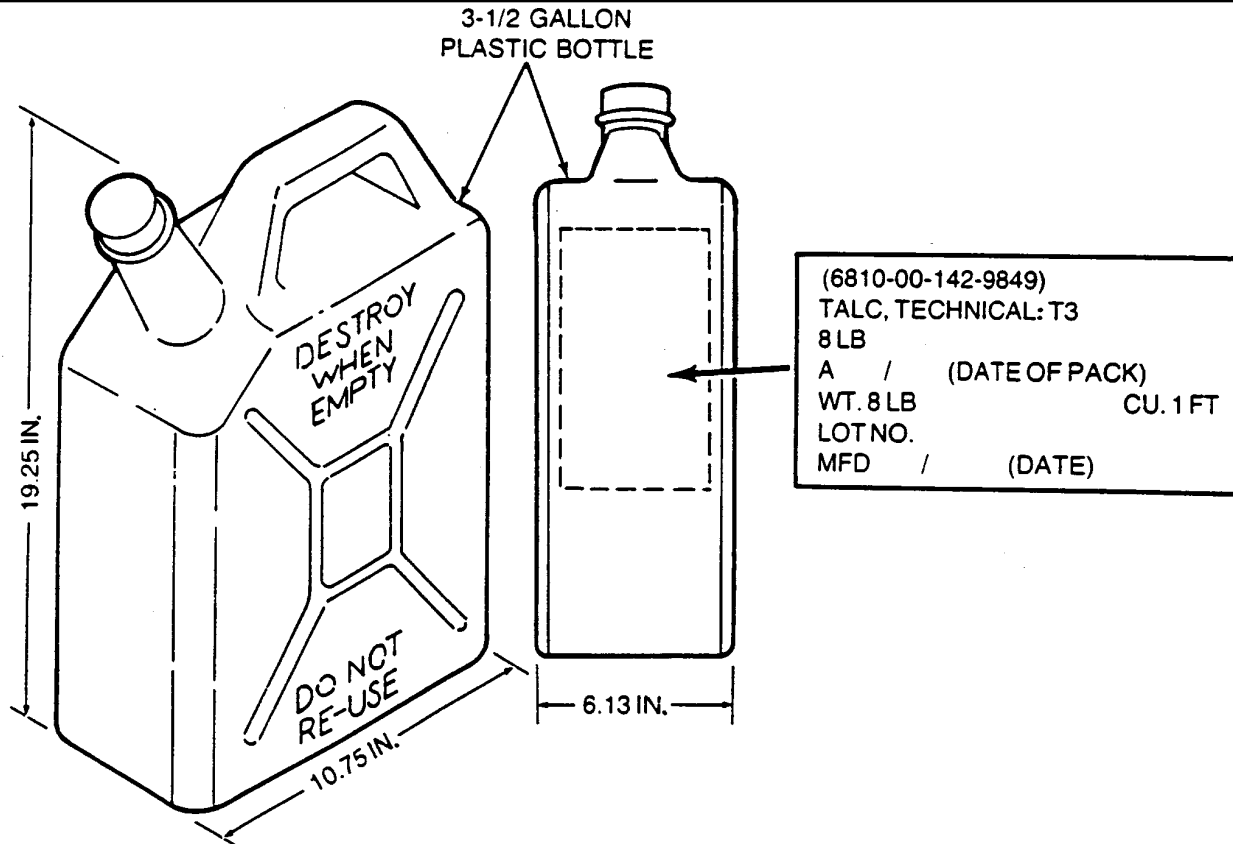
When the simulant skin decontamination packets of an M58A1 Training Aid have been consumed, three blue DECON 1 WIPE packets and three blue DECON 2 WIPE packets are placed in the black case for the M58A1 training aid.

Training Requirements Supported:

(Information not available)

Physical Information:

Transit Case: 10 x 6 x 6 inches
Loaded Transit Case: 8 ounces

TALC, TECHNICAL: T3**Training Category/Level Utilized:**

Chemical/Level 3

Logistic Responsible Command, Service, or Agency:

ACALA

Source and Method of Obtaining:

Available through local TSC.

Purpose of Trainer:

To simulate CS1 or CS2 riot control agent powder when training with riot control agent dispersers in situations requiring the use of inert materials. T3 technical talc is an inert, micro pulverized white powder with the apparent bulk density and flow characteristics of CS1 riot control agent. Eight pounds of T3 talc are packed in a 3 1/2 gallon plastic screw-cap bottle. The T3 talc consists of 55 to 65 percent silica, 25 to 35 percent magnesium oxide, and 0.30 percent calcium oxide by weight. The T3 talc is ground to an average particle size of no more than 3.5 microns. It has an apparent density of no more than 0.25 grams per cubic centimeter.

Functional Description:

The T3 talc is transferred from the bottle to the riot control agent dispersers by using the transfer tube assembly from

the M254 service kit. If T3 talc powder is used as the agent fill for the M33A1 disperser, the operator must install a short check valve assembly in the agent tank and a single jet spray unit on the disperser gun. When T3 talc is sprayed from a disperser, a cloud of airborne T3 talc particles is formed. The particles travel downwind from the release point. The powder settles and readily infiltrates terrain, vegetation, personnel, and equipment. However, as T3 talc is an inert material, it harms neither exposed personnel nor the environment. Because the particles are so fine, they are soon dissipated by weathering.

Physical Information:

Transit Case—19.25 x 10.75 x 6.13 inches

Loaded Transit Case—weighs 8 lbs

Equipment Required, Not Supplied:

None

Special Installation Requirements:

None

Power Requirements:

None

Applicable Publications:

Operator and Organizational Maintenance Manual for the
M33A1, M3, M5 Riot Control Agent Dispersers

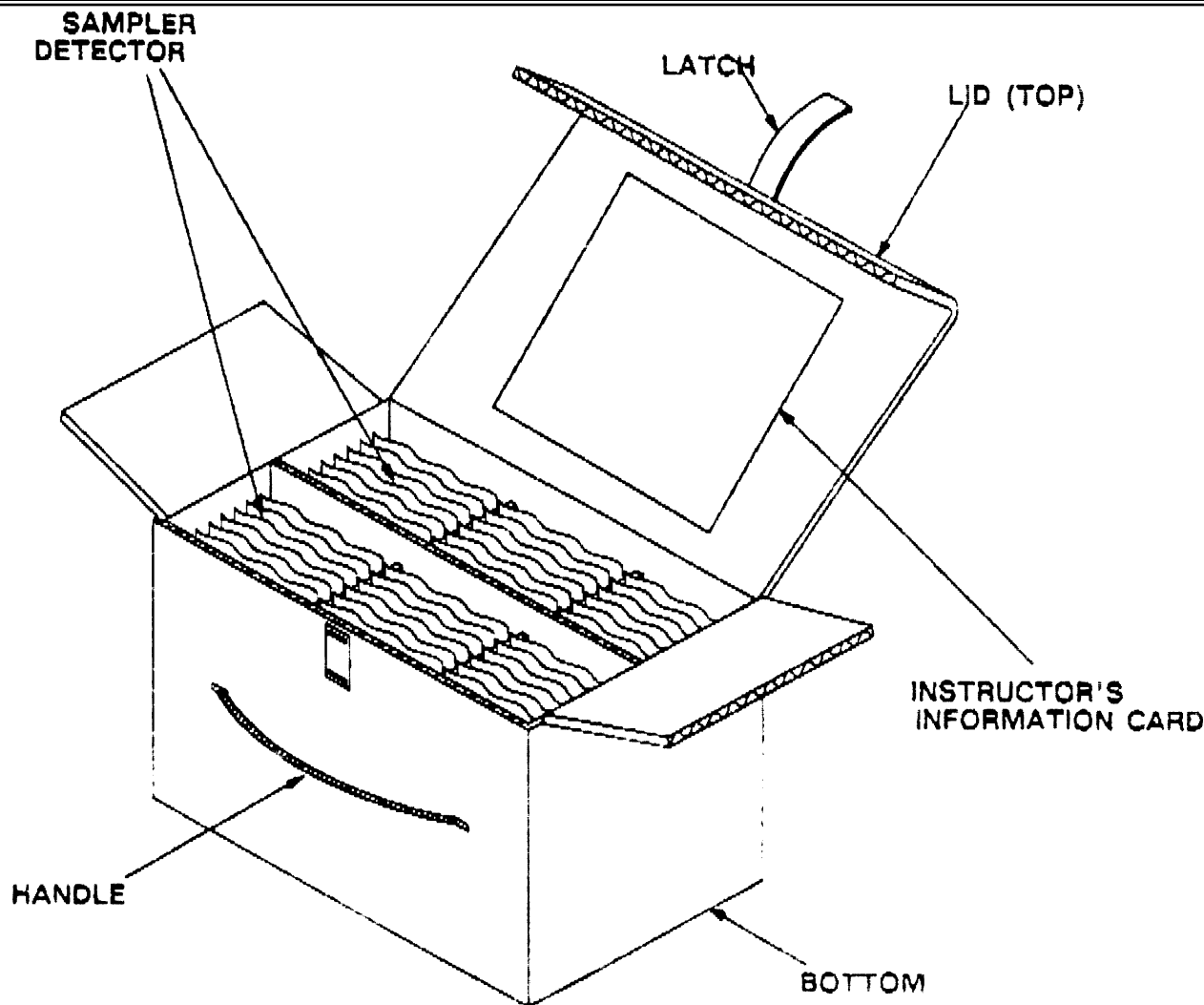
Reference Publications:

TM 3-1040-214-12
TM 3-1040-220-12
TM 3-1040-221-12
TM 3-1040-262-13&P

Training Requirements Supported:

(Information not available)

M256 TRAINING AGENT CHEMICAL DETECTOR TICKETS SIMULATOR (TRAINS)

**Training Category/Level Utilized:**

Chemical/Level 3

Logistic Responsible Command, Service, or Agency:

ACALA

Source and Method of Obtaining:

Available through Army Supply System.

Purpose of Trainer:

The purpose of the M256 TRAINS is to simulate a chemical agent response in the absence of agent or simulant in a training environment.

Functional Description:

The M256 TRAINS is a portable expendable item that consists of a carrying box and 36 sampler-detectors. The 36 sampler-detectors are individually wrapped and pre-engineered to provide specific responses. Twelve of these are for

“all clear”, six are to simulate nerve agent detection response (G or V), six are to simulate mustard detection response (H), six are for phosgene oxime (CX), three simulate hydrogen cyanide (AC), or cyanogen chloride (CK—STRONG, blue), and three simulate hydrogen cyanide (AC), or cyanogen chloride (CK—WEAK, pink). The sampler-detector is stamped “FOR TRAINING ONLY” in blue and has an associated code number to identify the specific response the sampler-detector should simulate. The M256 TRAINS contains an Instructor’s Information Card for the instructor/trainer which describes the number code and contains suggestions for use.

Physical Information:

M256 Training Simulator—29.845 x 19.050 x 13.652 cm

Carrying Box—11.75 x 7.50 x 5.75”

Weight Complete—1.135 kg (2.50 lb)

Equipment Required, Not Supplied:

None

Special Installation Requirements:

None

Power Requirements:

None

Applicable Publications:

TM 3-6665-320-10

Reference Publications:

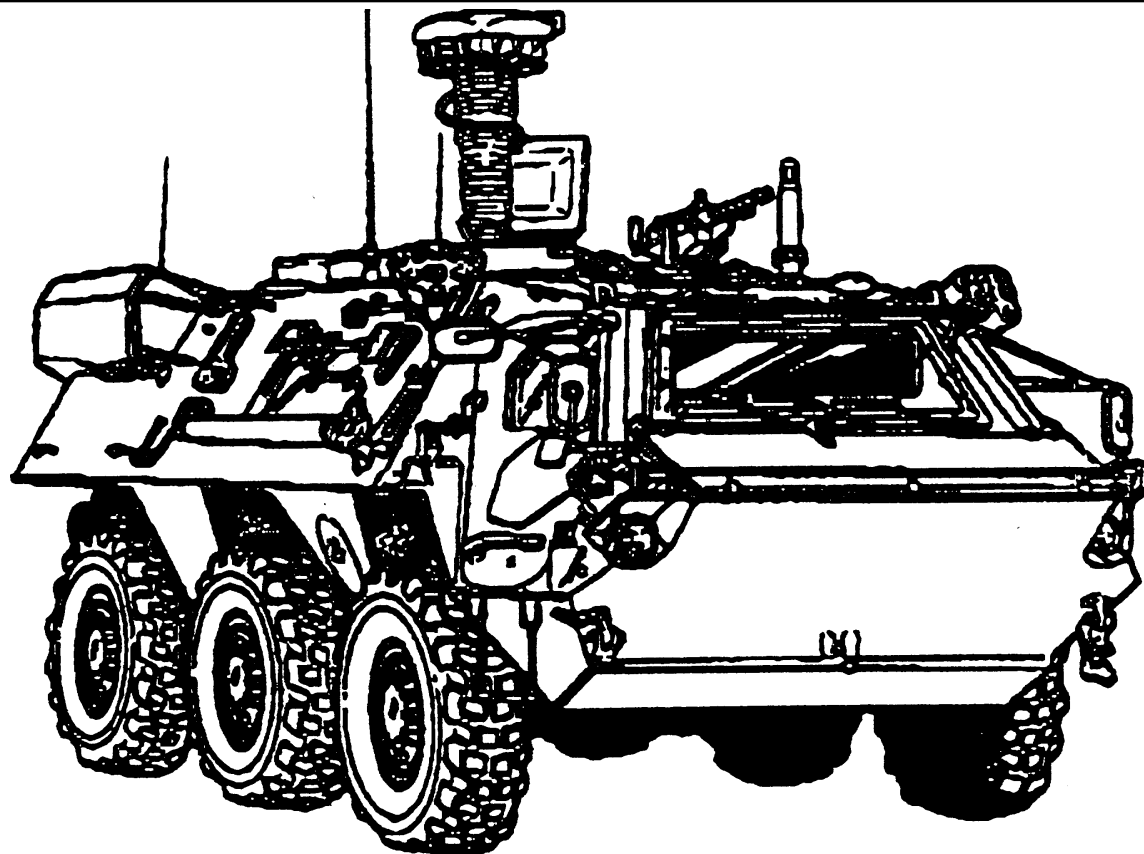
FM 21-40

TM 3-6665-307-10

Training Requirements Supported:

Numerous applications determined by User Command

M93 NUCLEAR, BIOLOGICAL, CHEMICAL RECONNAISSANCE SYSTEM (NBCRS) FOX SIMULATOR

**Training Category/Level Utilized:**

Chemical/Level 1

Logistic Responsible Command, Service, or Agency:

STRICOM

Source and Method of Obtaining:

Not generally available for issue (limited production).

Purpose of Trainer:

To provide classroom instruction to resident NBC Course students on NBC reconnaissance techniques and the operation of the M93 FOX Nuclear, Biological, and Chemical Reconnaissance System (NBCRS) during realistic NBC reconnaissance missions while avoiding wear and tear on actual vehicles and spreading chemical simulants on the ground.

Functional Description:

This device is a complete mock-up of the M93 FOX NBCRS. It consists of a driving simulator, a mechanical device (located in the classroom floor), an ASG1 for quantitative gamma radiation detection, and an instructor's control

center. The mechanical device supplies the chemically contaminated surfaces necessary for simulating air/surface monitoring (surface monitoring with the double wheel sampling unit and directly with the air/surface sampler), and a sample collection and retention system.

Device 03-12 is used with the Vehicle Navigation Training Simulator (DVC 03-13) and the MM1 Mobile Mass Spectrometer (DVC 03-14). Used together, these devices can be used to train students in all aspects of NBC reconnaissance including the determination of contamination boundaries on roads, determination of chemical agents in the air, mapping areas of contamination by unknown chemical agents, detection of nuclear explosions, sample collection via the work port, and vehicle navigation.

Physical Information:

Vehicle Hull Dimensions: 287" L x 94.8" H x 117.3" W

Equipment Required, Not Supplied:

Ventilated hood, sink, storage area, and heating oven (used to make simulants).

Special Installation Requirements:

The NBCRS FOX simulator system must be located in an area large enough to support the system. It requires a built-up area sufficient to support a viewing section where other personnel can watch, learn, and critique the training crews.

The room must have a ventilation system capable of exhausting the simulant vapors during the hot air blower decontamination of the steel roller. The room must also be capable of accommodating the installation of the steel roller in a well directly behind the vehicle hull.

Additionally, an area (not necessarily in the same room) is required to make the simulants. This area must be equipped with a ventilated hood, sink, storage area, and heating oven. The heating oven is used to decontaminate the silicone wheels for re-use.

Power Requirements:

110/220 vac

Applicable Publications:

None

Reference Publications:

FM 3-101-2

Training Requirements Supported:

MOSC 54B L5

VEHICLE NAVIGATION TRAINING SIMULATOR

**Training Category/Level Utilized:**

Chemical/Level 1

Logistic Responsible Command, Service, or Agency:

STRICOM

Source and Method of Obtaining:

Not generally available for issue (limited production).

Purpose of Trainer:

To realistically train crews in the operation of the Vehicle Navigation System (Vehicle Orientation System FOA 25) in conjunction with the while avoiding wear and tear on actual vehicles.

Functional Description:

The Vehicle Navigation Training Simulator is used with the M93 FOX Nuclear, Biological, and Chemical Reconnaissance System (NBCRS). It consists of a data processor, television monitor, U-MATIC video tape player, navigational directional gyro, distance calculator (all part of the main console), and nine map display units. A video tape is made of a reconnaissance route, continuously coded with information on vehicle coordinate location and direction of travel. The tape is then used in the classroom to provide a front view as would be seen from the NBCRS during a reconnaissance mission. In the automatic mode, the video tape, with its coordinate information, runs from beginning to end of the mission. The speed of the tape can be varied, thus varying the speed of

reconnaissance during the training session. The system can also be used without the video tape. In this mode, the instructor (using the directional gyro and distance calculator) can "drive" any route on the instructor's display map. This allows for the simultaneous training of up to eight soldiers.

Physical Information:

Main Console: 57.5" H x 40.5" D x 40.5" W (operational), two parts, each 20.67" W (transit); 473 lbs

Map Display Unit: 15.56" H x 2.13" D x 12" W

Equipment Required, Not Supplied:

Video Camera w/U-MATIC recorder

Special Installation Requirements:

None

Power Requirements:

110 vac

Applicable Publications:

None

Reference Publications:

FM 3-101-2

Training Requirements Supported:

MOSC 54B L5 Driving and Navigation

MOBILE MASS SPECTROMETER (MM1) SIMULATOR

**Training Category/Level Utilized:**

Chemical/Level 1

Logistic Responsible Command, Service, or Agency:

STRICOM

Source and Method of Obtaining:

Not generally available for issue (limited production).

Purpose of Trainer:

To train soldiers in the operation of the Mobile Mass Spectrometer (MM1) in a classroom environment.

Functional Description:

DVC 03-14 consists of a Mobile Mass Spectrometer (MM1) (consisting of a Sensor Unit, Electronics Unit, and a Control Unit), a power supply and a video screen. The simulator is capable of demonstrating all operational sequences of the MM1 in a classroom environment.

When a predetermined amount of a specified substance is detected by the MM1 probe, the MM1 simulator sounds an alarm or warning and reports the name and amount of the substance.

Physical Information:

MM1:

Sensor Unit: 26.4" x 9.44" x 25.6"

Electronics Unit: 20.5" x 20" x 25.6"

Control Unit: 19.7" x 19.7" x 9.44"

Video Screen: 17" x 19" x 14"

Power Supply: 12" x 6" x 4"

Equipment Required, Not Supplied:

None

Special Installation Requirements:

A power supply capable of converting 110 vac to 24 vdc

Power Requirements:

24 vdc

Applicable Publications:

None

Reference Publications:

FM 3-101-2

Training Requirements Supported:

MOSC 54B L5 MM1 Operations

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